Arkwood Inc., Superfund Site
Omaha, Arkansas
October 1990

SELECTION OF REMEDY

EPA SELECTS REMEDY FOR THE ARKWOOD INC., SUPERFUND SITE

The U.S. Environmental Protection Agency (EPA) has selected a permanent remedy for the Arkwood Superfund site near Omaha, Arkansas. In July 1990, EPA proposed a plan for addressing contamination at the site. The plan described several alternatives considered in the feasibility study (FS) for the site and identified the alternative preferred by EPA. The preferred alternative at that time included fencing the site, decontaminating and removing existing structures, monitoring the ground water, and incinerating the sludges and all contaminated soils onsite.

THIS FACT SHEET WILL TELL YOU ABOUT:

- EPA's selected remedy for the Arkwood Inc., Superfund site
- EPA's response to questions and comments received during the public comment period and at the public meeting
- The history and background of the site
- Ways to learn more about the Arkwood site and the Superfund program

With the signing of the Arkwood remedy, over 70 percent of EPA Region 6 sites now have selected remedies.

EPA has selected a final remedy that offers what the agency believes is the best long-term and permanent solution for the site and that addresses public concerns about onsite incineration. The preferred remedy was changed to include first treating the contaminated soils through a sieve and wash process and then incinerating the remaining soils that do not meet health-based goals. This change will reduce the amount of soils that must be incinerated and, therefore, reduce the time required for the incineration. The components of the final remedy are detailed in the Record of Decision (ROD) for the Arkwood site and are summarized below.

SITE FENCING

A 6-foot chain-link fence will be installed around the site perimeter to control public access (see Figure 1).

DECONTAMINATION AND REMOVAL OF EXISTING STRUCTURES

Several existing structures and other miscellaneous materials will be dismantled, decontaminated, and disposed of onsite or at an offsite municipal landfill. These structures and materials include the concrete slab covering the sinkhole, other visible foundations, a storage tank, a debarking shed, and miscellaneous trash and debris. Water collected from the decontamination process will be analyzed and, if necessary, treated.

GROUND WATER MONITORING

Selected local drinking water wells and springs will be monitored for 30 years following the completion of the remediation.

Continued on page 2

Continued from page 1

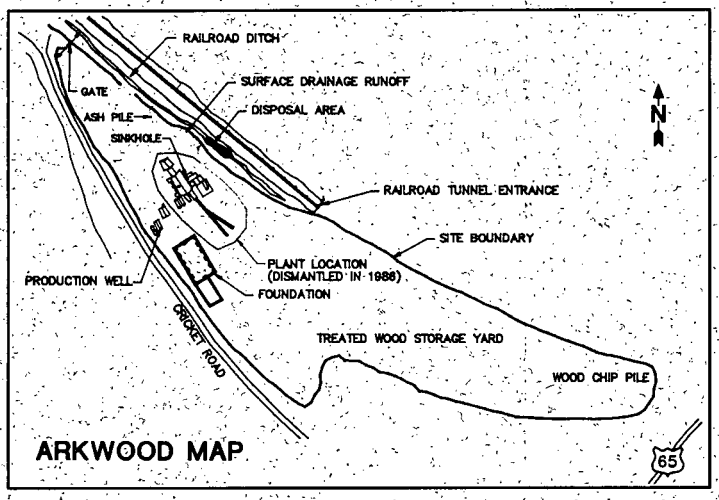

Figure 1. Arkwood Site

The local drinking water wells will be monitored to ensure that they remain unaffected by the site. New Cricket Spring will be monitored for 2 years to determine if contamination in the spring is decreasing through natural processes (attenuation). If after the 2-year monitoring period the spring contamination has not been reduced below state water quality standards, a treatment system will be installed at New Cricket Spring to treat contaminated water. Also, a dye tracing study will be conducted to further define ground water movement and, if necessary, to modify the monitoring locations and frequency. Finally, EPA will address public concerns about contaminated ground water by providing city water to well water users in close proximity to the site along Cricket Creek valley.

SOIL WASHING

All affected soils, about 20,800 cubic yards, will be excavated, sieved, washed, and then tested to determine if they meet health-based soil treatment goals. Soils that meet the treatment goals will be considered clean; these soils will be dried and replaced onsite. Soils that do not meet the goals will be incinerated as described below. Water used to wash the contaminated soils will be treated and re-used in the wash process; treated water will be required to meet State of Arkansas discharge requirements and will ultimately be discharged into the ditch along Cricket Road.

By washing the soils prior to incineration, EPA will dramatically reduce the amount of soil requiring incineration from the amount of soil originally proposed. The soil washing process will also reduce the time required for incineration.

ONSITE INCINERATION

Sludges and soils that exceed health-based goals after the soil washing process will be incinerated onsite to permanently destroy the contaminants of concern. The incinerator will be equipped with a number of safety features, including an automatic feed shutoff. The incinerator's performance will be continuously monitored to ensure the safe destruction of contaminants. The temporary incinerator will be equipped with appropriate air pollution control devices to ensure the protection of human health and the environment. Air monitoring equipment will be installed around the site and near the school to detect the slightest change in air quality.

SITE BACKGROUND

The 15-acre Arkwood site is located in an excavated area about 1,000 feet west of U.S. Highway 65, north of Cricket Road. The site consisted of a millwork shop, a wood-treating plant that used creosote and pentachlorophenol (PCP) in its process, and a yard for storing treated wood products prior to sale.

The plant site was developed in the 1950s when a railroad company excavated about 40 to 50 feet below natural grade to obtain fill dirt for constructing a railroad embankment. Arkwood, Inc. began wood-treating operations at the site in the early 1960s. In 1973, the site owner leased the wood-treating facility to Mass Merchandisers, Inc. (MMI). The facility continued to operate until June 1984, at which time MMI sold or removed its inventory and process materials. In January 1985, MMI's lease expired and was not renewed. The owner dismantled the plant in 1986.

During its 20-plus years of operation, the plant generated an estimated 6,000 to 7,000 pounds of waste per year. Wastes from plant operations were reportedly dumped into a sinkhole at the treatment plant from the beginning of operations until 1970. The sinkhole has since been sealed. In addition, waste oils were placed in a ditch adjacent to the railroad until approximately 1974, when MMI began using a chemical recovery system. Other wastes included liquids used to wash the treatment plant floor and equipment. These waste liquids were accumulated in a tank and then spread over the wood storage yard to control dust.

The Arkansas Department of Pollution Control and Ecology initially received a complaint about the site in 1981. Preliminary investigations revealed detectable levels of PCP in area ground water. In 1985, U.S. EPA proposed that the site be added to the NPL; the site was formally added in March 1989.

With EPA oversight, MMI conducted an RI/FS of the site to determine the nature and extent of the contamination and to investigate possible remedies for the site. The RI was conducted in two phases and consisted of (1) a subsurface investigation to characterize the geology beneath the site area and (2) an extensive sampling program to determine the effects of past wood-treating operations on the site and surrounding areas. Samples were collected of area ground water, soil, sediment, air, and surface water. Samples from monitoring wells at the site detected PCP in ground water, with the highest concentrations

Continued on page 5

SUMMARY OF COMMENTS

The Superfund program stresses public involvement, and EPA is conducting an ongoing community relations program at the Arkwood site to ensure that the public has an opportunity to obtain information about site activities, receive answers to their questions, and comment on site issues that affect them and their families.

As part of this effort, EPA held an open house to individually discuss the site with interested citizens and conducted a public comment period on the proposed plan of action from July 16 through September 14, 1990. Also, about 50 residents and local officials attended a public meeting on the proposed plan on July 25 at the Omaha Public School. EPA has compiled responses to the comments and questions received in a document called a Responsiveness Summary, which is available for review at the information repositories identified at the end of this fact sheet. The following is an overview of some of the most significant questions asked by the public and EPA's answers.

Question

The City of Omaha does not feel it is safe, from an emissions standpoint, to incinerate in the valley and close to the Omaha Public School. If the problem is in the soil now, why put it into the air?

Answer

The risk from a well designed and operated incinerator is much less than the current risk from the site. The incinerator must demonstrate that it can meet strict standards during a test burn, and then meet these standards at all times during the actual incineration. The threats now posed by the site soils will not be transferred to the air because at least 99.99 percent of the contamination will be destroyed. However, air monitors will be placed around the site and at the school to detect the slightest change in air quality.

Question

How long could the incineration, and thus the possibility of emissions, last?

Answer

The time required to incinerate the soils depends on the capacity of the incineration unit and the amount of material requiring incineration. A typical onsite incinerator, processing 50 cubic yards of soil per day, would require 400 days to incinerate all of the contaminated material (approximately 20,800 cubic yards). However, the soil washing process could reduce the volume to 7,000 cubic yards and the time required to approximately 140 days, should the incinerator be capable of handling 50 cubic yards per day. Of course, a smaller or larger incinerator could be used, which would change these times.

Question

What type of emissions controls are included on the incinerators?

Answer

The combustion gases are typically treated to remove inorganic acid gases and particulate matter. Several devices, such as baghouse filters, electrostatic precipitators, and venturi scrubbers, can be used to safely and adequately remove this material. The particular devices best suited for the incinerator at the Arkwood site will be determined during the remedial design stage.

Question

The results of the treatability study clearly show that the sieve and wash process is a cost-effective means of reducing the volume of contaminants to be dealt with. Why isn't this process included as a pretreatment step before any treatment remedy that might be selected at the site?

Answer

The sieve and wash process has been added to the selected remedy.

Question

Will hazardous waste from outside the Arkwood site be brought to the site and incinerated? Why not take the waste from the Arkwood site to the incinerator constructed at the Jacksonville, Arkansas, Superfund site?

Answer

Federal regulations allow wastes from one Superfund site to be brought to another only if the sites are close to each other and the wastes are similar. Since no other Superfund sites are near the Arkwood site, it is highly unlikely that outside wastes will be incinerated at the site. Because of these same regulations, Arkwood wastes cannot be taken to the Jacksonville incinerator.

Question

Wouldn't rainfall during soils excavation cause the contamination to spread?

Answer

Runoff from the site will be collected during excavation activities and treated, if necessary, to minimize the possibility that contaminants may spread offsite.

Question

Portions of the school playground were backfilled with soils taken from the site. Will the playground be tested?

Answer

Investigations showed that all soils used as backfill for the playground were taken from a natural, undisturbed area of the site, located approximately 30 feet higher than the site and the treated wood storage areas. Because the fill would never have been affected by plant operations or rainwater runoff from the plant site, it is considered clean; therefore, EPA does not plan any soil testing at the playground.

Question

How much contamination is in the ground below the surface soils? Will there be any further studies to determine this?

Answer

Results of the remedial investigation (RI) show that approximately 20,800 cubic yards of soils exceed the health-based

Continued on page 4

cleanup levels. Most of the soils are, however, within a few feet of the ground surface. Though some additional contamination may have migrated to greater depths, the local geology makes it impractical to define where and if this has occurred.

Question

Since the Feasibility Study states that the consolidation and capping alternative is fully protective of human health and the environment, why didn't EPA select it as the preferred alternative?

Answer

The consolidation and capping alternative was not selected because it does not treat contaminants, does not provide long-term permanence, and does not protect ground water when compared to the selected remedy.

Question

Doesn't Alternative D, Incinerate Sludges/Consolidate and Cap Affected Soils, fully satisfy all significant remedial concerns?

Answer

No. Because high concentrations of hazardous substances would remain untreated, the alternative does not satisfy the criteria of permanence and long-term effectiveness. In addition, Alternative D does not include treatment to the maximum extent practical, as preferred by CERCLA.

Question

Does Alternative H, Incinerate Sludges and Affected Soils On-site, meet EPA's evaluation criteria of implementability, cost-effectiveness, and community acceptance?

Answer

Handling of the materials to be fed to the incinerators is the most difficult implementation problem. However, the sieve and wash process will greatly reduce this problem by reducing the volume to be incinerated and by creating a very uniform media to be incinerated. Also, considering the degree of contaminant destruction achieved, incineration is cost-effective compared to the other alternatives considered. The selected remedy is also cost-effective compared to capping remedies, given the inadequacies of these remedies in terms of permanence and addressing the long-term threat to ground water. Finally, EPA hopes that the remedy will gain community acceptance with the addition of the sieve and wash process to reduce the volume and time required for incineration. EPA also believes that the remedy will be further accepted as the community learns more about the safety and capabilities of modern incinerators.

Question

Since the ground water from New Cricket Spring is showing a decrease in contamination, why is excavation and incineration necessary?

Answer

Although contamination in New Cricket Spring is decreasing slightly, onsite levels of contamination are sufficiently high to warrant the remedial action selected. The remedy will permanently rid the site of contamination above health-based levels, and will protect ground water and the surrounding environment over the long term.

Question

Does contamination in New Cricket Spring increase with flow, such as after rainfall?

Answer

Sampling of the spring after rainfall showed that contamination increased slightly at first in response to heavy rainfall, and then decreased quickly as the spring flow increased.

Question

Doesn't the water line that is being installed eliminate any risk due to possible future contamination of nearby domestic wells?

Answer

The Superfund law (the Comprehensive Environmental Response, Compensation, and Liability Act, CERCLA) and the NCP specify a strong preference for the permanent treatment of hazardous substances that pose a threat to human health and the environment. Installing water lines instead of treatment does not satisfy this preference.

Question

What can the site be used for after remediation?

Answer

The remediation goals were set assuming an industrial use. The site can be used for business, but will not be safe for residential purposes.

Question

When will the site be cleaned up?

Answer

First, EPA will attempt to negotiate a settlement for the cleanup with the potentially responsible parties (PRPs). After the negotiation period, either EPA or the PRPs, with EPA oversight, will design the remedy. The remedial design will take approximately 2 years, after which the remedy will be constructed. Construction of the remedy and the incineration will probably take between two and three years.

Question

Do conditions at the Arkwood site pose a significant risk to human health and the environment?

Answer

Yes; the endangerment assessment (EA) determined that conditions at the site, if not addressed, pose significant risks to public health and the environment. For two scenarios developed in the EA, the increased cancer risks, using the new Toxicity Equivalency Factors (TEFs), exceed the acceptable risk range established in the National Contingency Plan (NCP). These scenarios are the worst-case residential scenario for the main site and maximum future land use scenario for the railroad ditch.

Furthermore, the RI determined that the site is contaminated with dioxin (2,3,7,8-tetrachlorodibenzodioxin equivalents) above the acceptable level for industrial use, and far above the acceptable level for residential use. The RI also shows ground water contamination levels above the maximum contaminant levels allowed by EPA and the State of Arkansas.

Continued from page 2

near the railroad ditch. Samples from area springs showed that only New Cricket Spring has been affected by the site. Soil samples indicated contamination from PCP, chlorinated dibenzodioxins/dibenzofurans, and polynuclear aromatic hydrocarbons. Sampling also identified sludges in the railroad ditch and possibly in the sinkhole adjacent to the treatment area. Samples of nearby domestic and municipal wells showed no evidence of contamination.

FOR MORE INFORMATION

Additional information on the Arkwood site and the Superfund process is available for review at the U.S. EPA office in Dallas and at the information repositories listed below. Copies of the ROD and other site documents, fact sheets, and Superfund information materials are located at these repositories:

Omaha Public School Library*
Omaha, Arkansas
(501) 426-3366

Boone County Library
221 West Stephenson Ave.
Harrison, Arkansas
(501) 741-3665

Boone County Court House
County Clerk's Office
Harrison, Arkansas
(501) 741-8428

Arkansas Dept. of Pollution
Control and Ecology*
8001 National
Little Rock, Arkansas
(501) 562-7444

* The administrative record file, a collection of all the documents EPA considered or relied upon in selecting the remedy for the Arkwood site, is at these locations.

The administrative record and additional site documents are also available for review during normal business hours at the EPA Region 6 office in Dallas.

DO YOU HAVE A QUESTION ?

If you have questions or concerns about anything related to the Arkwood Superfund site, please contact:

Brent Truskowski
Remedial Project Manager
U.S. EPA (6H-EA)
1445 Ross Avenue
Dallas, Texas 75202-2733
(214) 655-6582

Ellen Greeney
Community Relations Coordinator
U.S. EPA (6H-MC)
1445 Ross Avenue
Dallas, Texas 75202-2733
(214) 655-2240

1-800-533-3508

ARKWOOD MAILING LIST ADDITIONS

(Please print.)

A mailing list for future fact sheets, meeting announcements, and other project-related material has been developed. If you would like to be added to the mailing list, please fill out this form and mail to:

Ellen Greeney
Community Relations Coordinator
U.S. EPA Region 6 (6H-MC)
1445 Ross Avenue
Dallas, Texas 75202-2733

Name _____

Affiliation _____

Address _____

City _____ State ____ Zip Code _____

Daytime Phone _____

U.S. Environmental Protection Agency
Region 6 (6H-MC)
1445 Ross Avenue
Dallas, Texas 75202-2733

Printed on Recycled Paper With
Ink Free of Cadmium and Lead

INSIDE: **EPA Selects Remedy for the Arkwood Site**